

Work Order ID 71121

Thursday, June 23, 2011 11:04:40 AM



Page 1

Item ID: D4037-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Fwd Crossbeam

Start Date: 6/23/2011 Start Qty: 3.00



Cust Item ID:

Required Date: 7/7/2011 Req'd Qty: 3.00



Customer:

Reference:

Run Start



Approvals: Process Plan: CL

Date: 11/06/23 Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4037

D

3

100

0.00



Waterjet

Memo

0.00

FLOW CNC Waterjet

Cut blank as per file D4037-3_BLANK

6061 1x15

811-7-6

(3)

110

0.00



HAAS I

Memo

0.00

HAAS CNC vertical machine #1

MACHINE AS PER FOLI FA878 AND DWG

FOLIO REV: 11

DWG REV: D

DEBURR

2 12-6-13 3 +

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71121

Thursday, June 23, 2011 11:04:40 AM



Page 2

Item ID: D4037-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Fwd Crossbeam

Start Date: 6/23/2011 Start Qty: 3.00



Cust Item ID:

Required Date: 7/7/2011 Req'd Qty: 3.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

R 12-6-13 3 4

130

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

SL 12-06-15 3

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

3 NG 12-6-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71121

Thursday, June 23, 2011 11:04:40 AM



Page 3

Item ID: D4037-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Fwd Crossbeam

Start Date: 6/23/2011 Start Qty: 3.00



Cust Item ID:

Required Date: 7/7/2011 Req'd Qty: 3.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Start Time: 12:00

3X

12/06/18

Powdercoat

Memo

0.00

Temp: 320°F

Finish Time: 12:30

Powder Coating

160

QC3- Inspect Part Finish

0.00

3

12/06-18

QC

Memo

0.00

Quality Control

170

Identify as per dwg & Stock Location

0.00

3

12/06/18

Packaging

Memo

0.00

Packaging

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71121

Thursday, June 23, 2011 11:04:40 AM



Page 4

Item ID: D4037-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Fwd Crossbeam

Start Date: 6/23/2011 Start Qty: 3.00



Cust Item ID:

Required Date: 7/7/2011 Req'd Qty: 3.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

12/6/19

12/6/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 23, 2011 11:04:37 AM

Page 1

Work Order ID: 71121



Parent Item: D4037-3



Parent Item Name: Fwd Crossbeam

Start Date: 6/23/2011

Required Date: 7/7/2011

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP REV:A NEW ISSUE 09-12-14 JLM VERIFIED BY:EC IPP
REV:B AS PER REV B 10-04-19 JLM VERIFIED BY:EC IPP REV:D AS
PER ECN 11-554 11-05-24 JLM VERIFIED BY:DD IPP REV C:AS PER
ECN 10-563 10-09-28 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B1.000X15.00 0		Purchased	No			100	f	12.2000	3.9	12.31579			



6061-T6 Bar 1.00 x 15.00



B11-7-6

Location

Loc Qty

Loc Code

MAT005

12.2

115173

12

117372

0.2

118184

118184

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

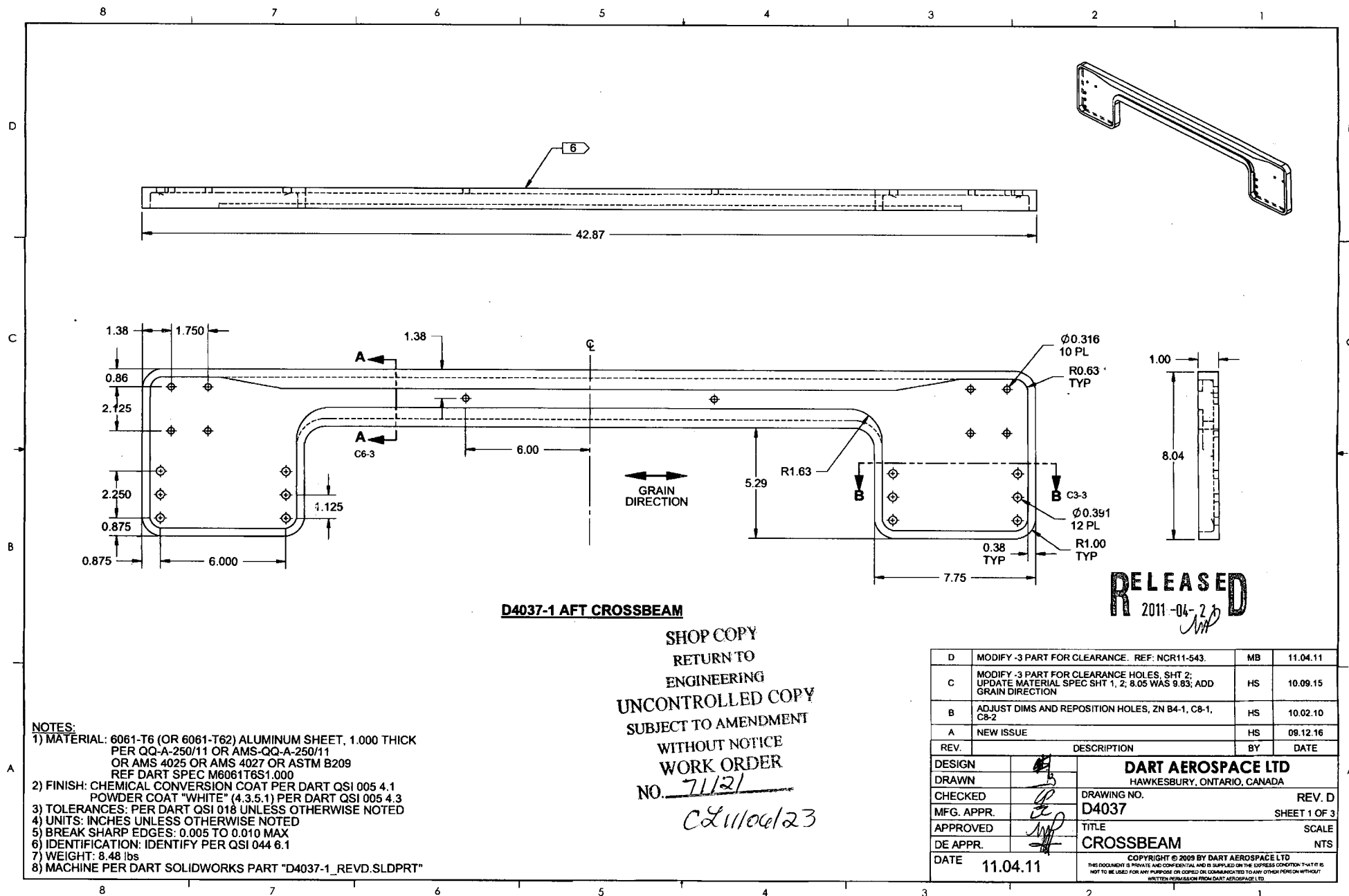
DART AEROSPACE LTD		Work Order:	71218
Description: Fwd Crossbeam		Part Number:	D4037-3
Inspection Dwg: D4037	Rev: D	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
41.66	+/-0.030	41.66	/		PR. 02	
0.92	+/-0.030	0.917	/			
1.75	+/-0.030	1.748	/			
0.92	+/-0.030	0.917	/			
2.125	+/-0.010	2.125	/			
Ø0.316	+0.006/-0.001	0.316	/			
Ø0.391	+0.006/-0.001	0.391	/			
0.28	+/-0.030	0.284	/			
1.32	+/-0.030	1.32	/			
7.79	+/-0.030	7.791	/			
5.80	+/-0.030	5.80	/			
2.250	+/-0.010	2.252	/			
0.875	+/-0.010	0.873	/			
6.000	+/-0.010	5.997	/			
7.75	+/-0.030	7.753	/			
1.125	+/-0.010	1.127	/			
9.29	+/-0.030	9.29	/			
1.75	+/-0.030	1.753	/			
1.38	+/-0.030	1.373	/			
1.50	+/-0.030	1.500	/			
0.63	+/-0.030	0.623	/			
1.00	+/-0.030	0.996	/			
10.79	+/-0.030	10.791	/			
3.00	+/-0.030	3.004	/			
2.00	+/-0.030	1.995	/			
0.25	+/-0.030	0.255	/			
0.530	+/-0.010	0.532	/			
0.35	+/-0.030	0.35	/			
0.35	+/-0.030	0.35	/			
R0.13	+/-0.030	0.125	/			

Measured by: <i>PR</i>	Audited by: <i>JL</i>	Preliminary Approval:
Date: 12.1.13	Date: 12-06-15	Date:

Rev	Date	Change	Revised by	Approved
A	10.06.08	New Issue	KJ	
B	10.10.07	Dimensions updated per Dwg Rev C	KJ	
C	11.06.21	Dwg Rev updated	KJ	<i>[Signature]</i>



D4037-1 AFT CROSSBEAM

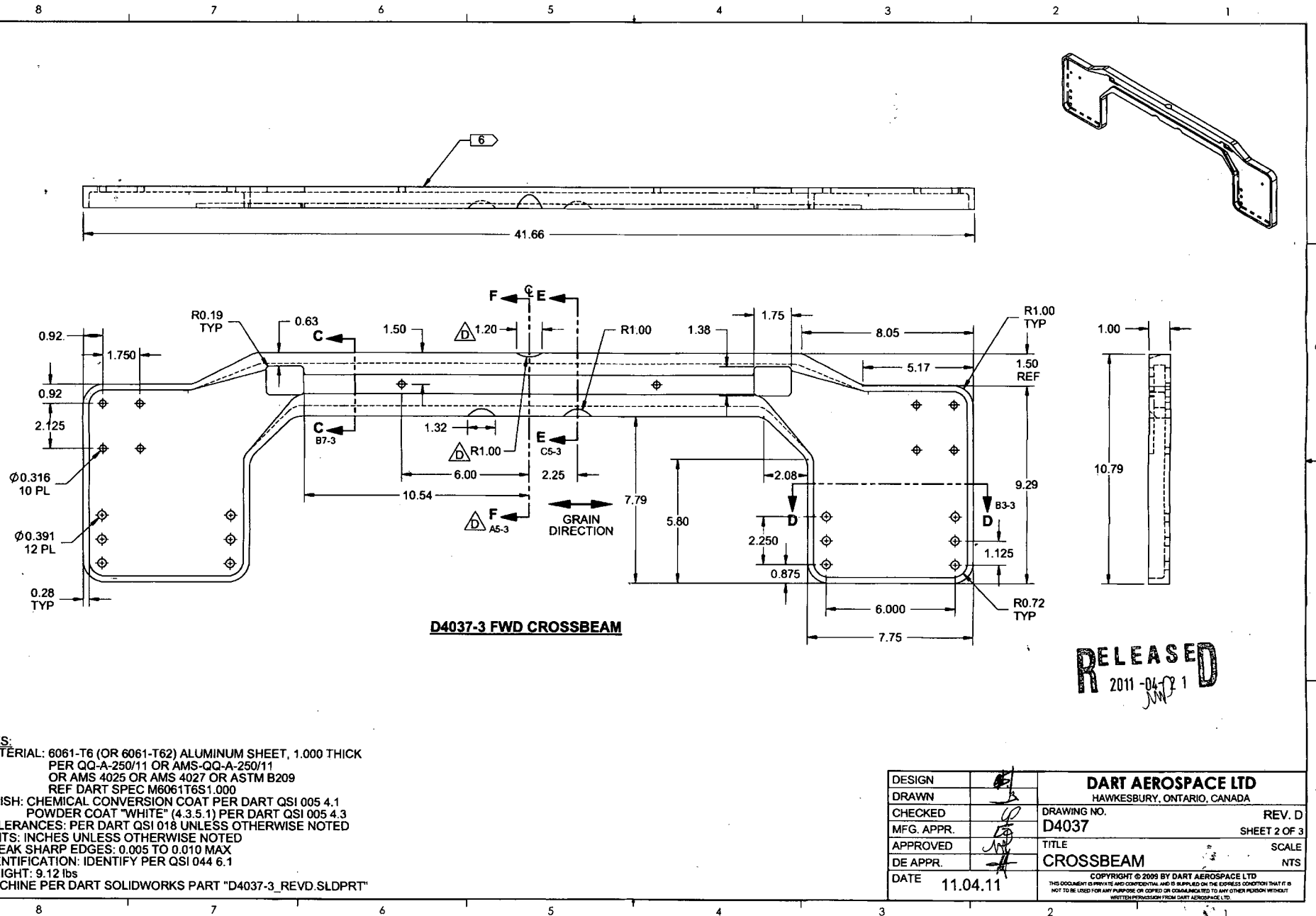
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 71121

C/L 11/04/23

- NOTES:
- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET, 1.000 THICK
PER QQ-A-250/11 OR AMS-QQ-A-250/11
OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC M6061T6S1.000
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
 - 7) WEIGHT: 8.48 lbs
 - 8) MACHINE PER DART SOLIDWORKS PART "D4037-1_REV.D.SLDPRT"

RELEASED
2011-04-23
MP

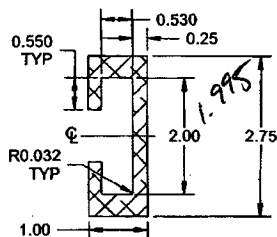
D	MODIFY -3 PART FOR CLEARANCE. REF: NCR11-543.	MB	11.04.11
C	MODIFY -3 PART FOR CLEARANCE HOLES, SHT 2; UPDATE MATERIAL SPEC SHT 1, 2; 8.05 WAS 9.83; ADD GRAIN DIRECTION	HS	10.09.15
B	ADJUST DIMS AND REPOSITION HOLES, ZN B4-1, C8-1, C8-2	HS	10.02.10
A	NEW ISSUE	HS	08.12.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>MP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4037 TITLE CROSSBEAM DATE 11.04.11	
DRAWN	<i>MP</i>		
CHECKED	<i>MP</i>		
MFG. APPR.	<i>MP</i>		
APPROVED	<i>MP</i>		
DE APPR.	<i>MP</i>	REV. D SHEET 1 OF 3 SCALE NTS <small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



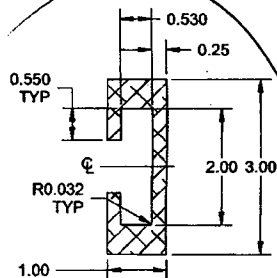
NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET, 1.000 THICK
PER QQ-A-250/11 OR AMS-QQ-A-250/11
OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC M6061T6S1.000
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 9.12 lbs
- 8) MACHINE PER DART SOLIDWORKS PART "D4037-3_REVD.SLDPRT"

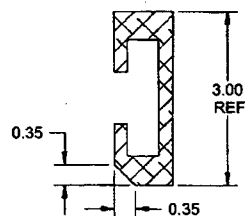
DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4037	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		CROSSBEAM	NTS
DATE	11.04.11	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



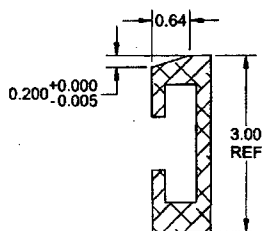
SECTION A-A
SCALE 2X



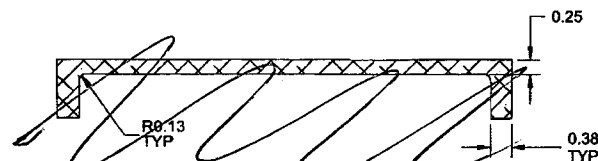
SECTION C-C
SCALE 2X



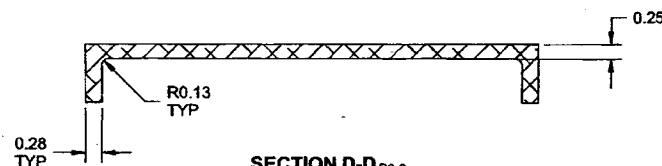
SECTION E-E
SCALE 2X



SECTION F-F
SCALE 2X



SECTION B-B
SCALE 2X



SECTION D-D
SCALE 2X

RELEASED
2011-04-31

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4037	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		CROSSBEAM	NTS
DATE	11.04.11	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	